

### **REMARKS**

This is in response to the Office Action dated July 27, 2006. In view of the foregoing amendments and following representations, reconsideration is respectfully requested.

Upon entry of the above amendment, claims 13, 14, 16-18, 21, 22, 26 and 27 are amended, and thus the claims stand as follows:

Claims 1-12 are cancelled

Claims 13-30 are pending.

In response to the objection to claims 17, 18, 21, 26 and 27 on page 2 of the Office Action, these claims have been amended to adopt the Examiner's helpful suggestions. Accordingly, the objection to the claims should now be obviated.

Next, on page 2 of the Office Action, claims 13-30 are rejected under 35 U.S.C. 112, second paragraph. The original language was intended to compare the opposing areas of the potentially controlled electrode and the plasma source superposed on the objection to be processed. The language in claim 13 and 22 has been amended to more clearly recite this feature. The amended claims clarify that the recited area is the area defined the entire opposing surface of the opposing elements. Accordingly, it is submitted that the rejection under 35 U.S.C. 112, second paragraph is now clearly obviated.

Next, on page 3 of the Office Action, claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Fukuda (U.S. Patent Application Publication 2003/0170472). In view of the fact that the rejection is based on broad interpretation of originally presented claims 13-30, the

previous arguments are still applicable, and the distinctions are now clearly defined as will be demonstrated below.

In the explanation of the rejection, the Examiner states in part that:

*“Fukuda teaches plasma processing a substrate with a plasma apparatus comprising an electrode opposed to a plurality of smaller electrodes.”*

**Fukuda** discloses, in paragraph [0005] that:

*“An object of the invention is to provide a method of uniformly forming a layer with high function over a large area with high productivity and with high production efficiency, a product comprising the layer, and an optical film comprising the layer, and to provide a dielectric coated electrode and a plasma discharge apparatus for carrying out the method and obtaining the product and the optical film.”*

In addition, in paragraph [0103] Fukuda discloses that:

*“It is preferred in forming a uniform layer with high performance and without unevenness that the length in at least one direction of the electrode discharge surface is equal to or greater than that in the direction of the substrate surface on which the layer is to be formed, the direction being the same as the electrode discharge surface. When a substrate is transported relatively to the electrode to form a layer on the substrate, it is preferred that in the direction perpendicular to the transport direction of the substrate, the length of the electrode discharge surface is equal to or greater than that of the substrate surface on which the layer is to be formed. Thus, according to the method in which the substrate is transported relatively to the electrode to form a layer on the*

*substrate, it is possible to form a layer over a large area at high speed simply by moving the substrate or the electrode in one direction.*” (emphasis added)

Thus, the Fukuda method employs an electrode that is longer than the width of the film substrate, and this represents a fundamental difference between the Fukuda method and the plasma processing method recited in independent claims 13 and 22 of the present invention.

In the present invention, only an arbitrarily selected region *is* processed, *so* that at least one of the electrodes *is* **shorter than any dimension of** the substrate in all of directions. This means that the plasma processing method of the present invention *is* performed under a condition where the electrode *is* **shorter than** the substrate in any of a transverse direction and a transport direction, which is perpendicular to the transverse direction. For example, the method is performed with an electrode that has a surface that confronts or faces a surface of the substrate and is **smaller than** the opposing surface of the substrate.

Independent claim 13 requires that a part of an object is processed with an electrode that is smaller than a length in any direction of an opposing surface of the object to be processed. As explained above, the Fukuda method employs an electrode that is longer than the substrate in order to achieve a completely different result.

In particular, claim 13 now requires, inter alia:

*“processing a part of the object to be processed with a plasma, while supplying electric power to at least one of the first electrode and the second electrode, wherein an area defined by an entire surface of the potentially controlled first or second electrode, which is arranged in a position opposite to the plasma source via the object to be processed, is smaller than an area defined by the perimeter of a surface of the plasma source superposed on the object to be processed, and a length in any direction of the area of the entire surface of the potentially controlled first or second electrode, which is arranged in the position opposite to the plasma source via the object to be processed, is smaller than a length in any direction of the area defined by the perimeter of the*

*surface of the plasma source that is superposed on the object to be processed such that the area of the potentially controlled first or second electrode that opposes the plasma source is smaller than the area defined by the perimeter of the surface of the plasma source that is superposed on the object.”*

Therefore, the present invention, as defined in claim 13, is clearly allowable over the teachings of Fukuda. Note that claims 14-20 ultimately depend from claim 13 and are therefore allowable at least by virtue of their dependencies.

Similarly, independent claim 22 requires, inter alia, “*supplying a high-frequency electric power to the first electrode while supplying gas from a gas supply unit to the object to be processed at a pressure in the vicinity of atmospheric pressure to generate plasma on a part of the object to be processed, wherein the longest dimension of the area defined by the surface of the potentially controlled second electrode that is superposed on the object to be processed is **smaller** than the shortest dimension of an area defined by the perimeter of the opposing side of the object.*”

Accordingly, claim 22 is clearly allowable over the Fukuda patent, and claims 23-30 are allowable at least by virtue of their dependencies.

In view of the above, it is submitted that the present application is now clearly in condition for allowance. The Examiner therefore is requested to pass this case to issue.

In the event that the Examiner has any comments or suggestions of a nature necessary to place this case in condition for allowance, then the Examiner is requested to contact Applicant's undersigned attorney by telephone to promptly resolve any remaining matters.

Respectfully submitted,

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